March 2016

Veterinary Services Staff

Branch Supervisor/Wildlife Veterinarian: Dr. Mary Wood

Laboratory Supervisor: Hank Edwards

Senior Lab Scientist: Hally Killion

Senior Lab Scientist: Jessica Jennings-Gaines

Brucellosis Lab Assistant: Kylie Sinclair

Wildlife Disease Specialist: Terry Creekmore

TWRC Manager: Matt Huizenga

Wildlife Biologist: Cole Hansen

Biologist: Sam Lockwood

Veterinary Services Newsletter

March 2016

Thorne/Williams Wildlife Research Center

Sheep Facility Progress

We had a busy and productive month here in the canyon. With mostly mild February weather, we were able to make considerable progress on our new sheep handling facility, nearly finishing the exterior alleyways. After completion of the exterior odds and ends, we were able to fully concentrate on the interior of the building, finishing the alleys and chute system, sealing the floor, and starting to put plastic paneling up on the ceiling and walls. The interior of the building is designed with plastic wall panels and special floor paint for easy cleaning and disinfection after handling sheep. The end is finally in sight for the completion of the project - which turned out to be a lot bigger than we anticipated.

Interior of our new Bighorn Sheep handling facility.

New gabion.

Habitat and Access Crew to the Rescue!

Last summer, a gabion washed out due to high water and made our irrigation ditch and pond non-functional. The Habitat and Access crew came out for a week in February to help replace the gabion. With their equipment and a good number of very large concrete blocks put in place, hopefully we will have a full ditch and pond this coming spring. Many thanks to Kade, Mac, Cordell, and Jerry for the help.

Epic Snow!

While weather has been very mild for the last month, the first week of February brought us 18 inches of snow and strong winds. Snow drifts up to 8 feet high filled our elk alleyways and corrals! The snow had to be cleaned out daily to keep elk from walking over the fences. Luckily the TWRC staff was on top of it and kept the drifts cleared away so no elk could sneak out over the snow.

Large snow drifts had to be removed from elk corrals daily after an early February snow storm. The alleyway behind the fence in this photo is still full of drifted snow.

Wildlife Necropsy Summary

Seventeen wildlife cases were submitted for diagnostics in January.

Species	Date Received	County	Diagnosis
Mule Deer (3)	2/3/2016	Sweetwater	Undetermined
Mule Deer	2/52016	Albany	Emaciation
Mule Deer	2/8/2016	Albany	Keratitis, Panophthalmitis
Mule Deer	2/11/2016	Natrona	Emaciation
Elk	2/11/2016	Niobrara	Pending
Mule Deer	2/17/2016	Albany	Pending
Bighorn Sheep	2/22/2016	Bighorn	Pending
Mule Deer	2/22/2016	Fremont	Malignant catarrhal fever
Mule Deer (2)	2/22/2016	Fremont	Pending
Mule Deer	2/26/2016	Platte	Pending
Bobcat	2/29/2016	Albany	Pending
Mule Deer	2/29/2016	Sweetwater	Pending
Mule Deer	2/29/2016	Natrona	Pending
Elk	2/29/2016	Natrona	Pending

Case of the Month

Wyoming Game and Fish biologist, Stan Harter, and warden, Brady Frude, responded to a call of a dead adult mule deer buck that had blood coming from the mouth and nose. After ruling out foul play the team conducted a field necropsy and discovered a large amount of blood in the chest cavity and enlarged lymph nodes near the tonsils (retropharyngeal lymph nodes). Tissues were submitted to the lab where tests for adenovirus and bacterial culture were all negative for significant pathogens. Microscopic examination of lung tissue by Dr. Juan Munoz-Gutierrez, a pathologist at the Wyoming State Veterinary Laboratory, revealed lesions suggestive of viral infection. Subsequent testing identified ovine herpesvirus-2 which causes malignant catarrhal fever (MCF). Malignant catarrhal fever is a sporadic, typically fatal disease of bison, moose, and mule deer. Animals become infected by clinically normal carrier hosts but population limiting die-offs in wildlife species have not been reported. Interestingly, this mule deer buck also tested positive for chronic wasting disease, but the lung lesions suggest MCF was the primary cause of death. The dual infection in this prime aged mule deer buck is a prime example of the disease challenges faced by free-ranging wildlife.

Wildlife Health Laboratory

Bighorn Sheep Herd Health Surveillance

Twenty five bighorn sheep were captured in Devil's Canyon for transplant to the Ferris Mountains. A wide array of samples were collected from each animal for disease testing including nasal, tonsil, and ear swabs, feces and blood. When time allowed, an ultrasound was used to determine pregnancy. The Devil's Canyon herd is one of our "cleanest" herds in the state, having only a few of the known bacterial pathogens responsible for respiratory disease.

Hally collecting blood for disease testing.

Volunteers of all ages helped hold the sheep for disease sampling.

Wildlife Health Laboratory

Bighorn Sheep Herd Health Surveillance (continued)

Wind River Indian Reservation, USFWS, and WGFD personnel all cooperated in sampling bighorn sheep. (photo by Rene Schell)

The Temple Peak bighorn sheep herd was also sampled in February. Ten sheep were captured near Washakie Reservoir for disease testing and fitted with GPS collars to track their movements. The Temple Peak herd has remained a small herd for many years, but recently has started to increase. This is the first time this herd has been sampled for disease since an all-age die-off in 1992.

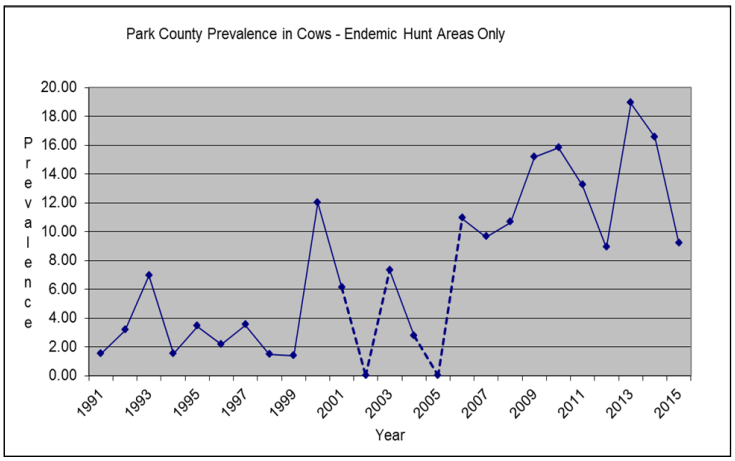
A large group of volunteers helped with handling and disease sampling of bighorn sheep from Devil's Canyon transplant to the Ferris Mountains.

Surveillance updates

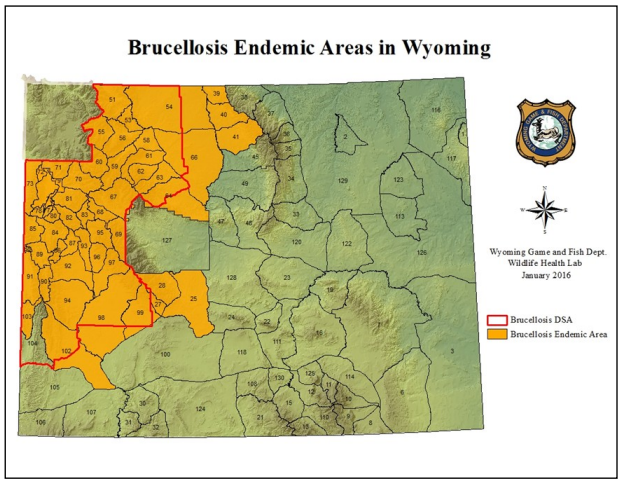
The brucellosis surveillance report for hunter-killed elk in 2015 is complete and posted on our website. In 2015, over 10,500 blood collection kits were mailed or directly handed to elk hunters successful in limited quota elk license drawings in the select (target) hunt areas. Statewide surveillance yielded 1,158 elk blood samples that were received by the laboratory with 798 (69%) of those being suitable for testing. The majority of the statewide samples were collected from the Bighorn Mountains where 482 useable samples were collected. All blood samples submitted from hunter-harvested elk in the Bighorns tested negative for brucellosis, but two positive cows were identified during the mid-February capture of 58 elk as part of a movement study.

Blood samples were also submitted from elk harvested within the Designated Surveillance Area (DSA) where brucellosis is known to be endemic. Analysis of these samples revealed that in the combined northern herd units of the DSA, seroprevalence decreased from 16.6% in 2014 to 9.2% in 2015 (see graph below). Seroprevalence in the targeted areas for long-term monitoring (HA 61, 62, and 63) also decreased from 2014. Last year's levels were 20.1% in cows (22 positives/109 samples), but decreased to 14.3% in 2015 (5 positives/35 samples).

In the southern herd units, 12 suitable samples were received from cows harvested from either the South Wind River or the West Green River herd units. Although the sample size is small, no seropositive animals were identified from these herd units. A total of 344 useable samples have been collected over the past four years of surveillance in the southeastern corner of the state, and all have tested negative for exposure to *B. abortus* on serological tests. In the past 24 years, 4,010 samples from the nonendemic area have been analyzed. To date, this disease has not been documented outside of western half of the state (see map below).



Seroprevalence Through Time in Cody and Gooseberry Elk Herd Units (Cows only)



Brucellosis Endemic Elk Hunt Areas in Wyoming